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The Evolution of maritime law in the context of global trade

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ABSTRACT :

As a foundation for the expansion and management of international shipping, maritime law has influenced trade and commerce on a global scale for centuries. In this article review the various literatures on evolution of maritime law in the context of global trade. The review highlights that maritime law has significantly evolved alongside global trade, addressing issues of safety, financing, governance, and connectivity. Smart regulations are perceived as effective yet face challenges of ambiguity and implementation costs. Governance complexity, as seen in Indonesia, underscores gaps between policy rhetoric and practice. Empirical studies confirm that investment in maritime transport positively impacts trade, while factors like distance, connectivity, and partner GDP influence trade flows. Advances in safety management increasingly adopt quantitative and AI-driven methods. Overall, maritime law must continue adapting to digitalization, sustainability, and globalization to ensure resilient and equitable trade systems.

Keywords: Global Trade, Maritime Law, Admiralty Law, Maritime Transport, Intergovernmental Maritime Organisation.

INTRODUCTION

Marine law, sometimes known as admiralty law, governs the legal elements of naval operations. Its roots may lie in ancient societies, when the groundwork for contemporary behaviors was laid by early "maritime laws and regulations like the Roman and Rhodian Sea Laws". Trade, navigation, and the resolution of marine conflicts were the primary subjects of these early laws. The complexity and reach of maritime law expanded along with maritime trade, and now it encompasses a broad variety of topics such as "shipping contracts, marine insurance, and seafarers' rights and obligations" [1]. Maritime law is important because it provides the core legal foundation for the international shipping industry, which is essential to trade and economic expansion. By addressing issues such as cargo management, shipping routes, and dispute resolution, maritime law establishes consistent standards that facilitate international trade. It also guarantees that commerce on the seas is conducted in an orderly manner. Without the predictability and consistency that maritime law provides, international shipping is unable to function effectively [2]. Businesses may now operate internationally with confidence and legal certainty thanks to this. Additionally, maritime regulation greatly contributes to the preservation and protection of the environment. Conventions such as "the International Convention for the Prevention of Pollution from Ships (MARPOL) and the Safety of Life at Sea (SOLAS)" set stringent standards for the construction, equipment, and operation of vessels in an effort to reduce environmental damage and avoid accidents [3], [4]. These regulations safeguard human lives and marine environments by lowering the risks associated with maritime activities. In order to ensure "the marine industry's resilience", responsiveness, and sustainability in the face of evolving global demands, maritime law is in a perpetual state of evolution, addressing new issues and technological advancements [5], [6].

Maritime Law

Marine law, often known as admiralty law, is a body of legislation, treaties, and agreements that govern private maritime enterprises and other maritime matters, including shipping and offences committed in open seas. The worldwide rules that govern how the seas and waterways are used are known as the Law of the Sea [7]. In most developed nations, maritime law is regulated by a separate code and is not the same as national law. "The International Maritime Organisation (IMO)" makes it possible for the fleets and coast guards of countries who have signed the treaty specifying these laws to carry out the many agreements issued by the United Nations (UN) [8].

Maritime law governs a variety of issues, including "piracy, civil disputes between shipowners, seamen, and passengers", and various insurance claims involving ships and cargo. Moreover, shipping contracts, the transportation of goods and people, and the licensing, inspection, and registration of ships are all governed by maritime law. [9]. Originally founded as "the Inter-Governmental Maritime Consultative Organization in 1948, the International Maritime Organization (IMO)" came into existence in 1958. Its duties include maintaining the present standing of existing international marine accords and creating new ones as needed [10].

"Enforcing IMO conventions for ships registered in their country" is the responsibility of the governments of the 176 IMO member states as of 2024. Local governments establish the penalties for violations and implement the IMO conventions' requirements with regard to their ships. Certificates attesting to the ship's inspection and regulatory conformity may sometimes be requested on board [11].

Evolution of maritime laws

Maritime laws were predominantly uniform during the early stages. This is due to the fact that these laws must be comparable to those that benefit the entire community, rather than a small number of individuals who engage in naval activities. This consistency in the regulations also turned out to be a barrier to the rise of maritime nationalism. Uniformity in maritime laws resolved issues associated with unpredictability and conflicting laws [12]. "The National Maritime Law Associations and Comité Maritime International (CMI)" were established by a group of attorneys and businessmen who first advocated for consistency. The Intergovernmental Maritime Organization (IMO) and other United Nations-affiliated institutions continue to advance this concept [13].

In 1897, the International marine Committee (CMI) was established with the goal of preserving consistency in national laws concerning marine issues. Among the treaties draughted by the CMI are the Salvage Convention, the Visby Amendments (which revise the Hague Rules), and "the Hague Rules (International Convention on Bill of Lading)". Many of CMI's responsibilities are now handled by "the United Nations Organization's (UNO) International Maritime Organisation" [14].

To prevent disputes between different jurisdictions, even the IMO is in favour of unified maritime legislation. Many nations have adopted the IMO's principles and implemented its opinions into their own national laws. There is still more work to be done, however, since the nations' marine rules are still far from being standard [15].

In addition to new national and international legislation, the current marine rules are the result of several old ideas. The old idea of 'maintenance and cure', salvage, general average, marine insurance, and the welfare of sailors. These early marine ideas are still in use today and are included in some form in contemporary maritime regulations [16]. The main justification for the ongoing use of certain standards is the constancy of the fundamental risks associated with sailing. Other maritime operations, such as cargo handling and naval architecture, have seen substantial modification, nevertheless. Because of the necessity to adapt the old rules to the changing circumstances, the contemporary laws are a special synthesis of both the new laws and the ancient principles. While some old laws have been repealed, others have not [17].

The History of International Maritime Law

Although "the Egyptians, Greeks, and Phoenicians all had unwritten rules of etiquette", the first known norms of maritime behaviour were established as early as 900 BC on the island of Rhodes. The law is still evolving today.

1. The Rhodian Sea Laws

The laws that regulate the commerce and behaviour of seafarers in the Mediterranean Sea were first formed about 900 BC and were firmly entrenched by 300 BC. Roman law was significantly impacted by it from that period until 1200 AD. A standardised standard for the handling of commercial ships during their port-to-port transactions was created by the Rhodian Sea Laws, in addition to the idea that conflicts that occur at sea must be resolved by Rhodian maritime law rather than local courts or councils [18].

2. The Consulate Of the Sea

Special courts were established by the Romans to decide conflicts involving ships, ports, merchants, and sailors as they applied the Rhodian Laws. Between the years 1000 and 1300 AD, the Mediterranean saw the development of three different systems of maritime law and judicial procedures. The earliest of them was "the Consulate of the Sea, or Consolato del Mare", which was headquartered in the Italian seaport of Barcelona, Spain. Addressing every facet of the customary rules of the sea was the goal of the Consulate of the Sea. It included information on ship ownership, the responsibilities and pay of seafarers, "the average contribution, salvage rights, and the duties of captains and shipowners" [8].

3. Early European Codes of the Sea

By 1152 AD, the developing maritime laws of the Mediterranean were further formalized into early European maritime regulations. The formation of Admiralty Law was greatly influenced by these, "which were compiled into the Admiralty's Black Book in 1336" [19]. These instances directly lead to some of the noteworthy legal ideas that are still upheld today:

- "The Laws of Hansa Towns (Germanic region)"
- "The Laws of Oleron (French region)"
- "The Laws of Wisby (Baltic region)"

4. The English System of Admiralty Law

The Wilsby, Hansa, and Oleron laws are credited with laying the groundwork for British Admiralty Law. The English Admiralty Courts, which upheld the foundations of traditional maritime law, faced difficulties during "the industrial revolution in the late 1700s". Engines brought about changes in the business, and as commerce grew increasingly global, the rules were modified to reflect the increasing complexity of international interactions [20]. All maritime matters, including those from the British Colonies, were tried by "the Admiralty Courts", which were situated close to the other English courts. The American Revolution could have been influenced by the English Admiralty Courts, which were hated throughout the New World. As is customary under Maritime Law, the proceedings were conducted without a jury and they were charged with carrying out the Stamp Act.

5. Maritime Law in America

For the new country, the European admiralty ideology was well-established and practical, notwithstanding the possibility of a revolution. American law also included admiralty cases as they emerged. Numerous notable historical personalities and founding fathers were also admiralty attorneys. "In 1789, the year the U.S. Constitution" was ratified, a competent marine disaster counsel was still necessary to safeguard ship proprietors, mariners, and ship employees [21].

In the US, admiralty, or maritime law, regulates:

- "Marine commerce, pollution, and navigation".
- "Seafaring cargo and passengers".
- "Marine insurance and salvage".

- “Arrests at sea”.
- “Ship collisions”.
- “Towage and liens”.
- “Claims for personal injuries when the occurrence happened at sea”.
- “Repair and rehabilitation for shipworkers who have been hurt”.
- “Generally speaking, any situation in which the court would need jurisdiction over marine property”.

The Four Pillars of International Maritime Law

International marine law is based on four treaties or conventions. These consist of:

Safety of Life at Sea Convention

Minimum safety standards are set by SOLAS for the commercial shipping sector. Only ships that sail in international seas are expressly covered by the treaty; “warships, cargo ships under 500 gross tonnes, non-propelled ships, wooden ships, non-commercial pleasure boats, and fishing ships are not”. Every country that has accepted the SOLAS Convention is required to make sure that all ships flying their flag adhere to its requirements, including incorporating them into their own national maritime laws and regulations.

The SOLAS Convention's inception dates back to the Titanic shipwreck, when the safety recommendations that resulted from the disaster were incorporated into the first iteration of the convention in 1929. The first significant marine safety pact was SOLAS when it was passed. "The first SOLAS convention established" a variety of safety requirements to guarantee that safety apparatus was in good working order and that the crew was well-versed in safety protocols. For instance, the provision of an adequate number of lifeboats for all crew members and passengers was mandated. Additionally, the convention conducted "routine lifeboat exercises and inspections".

Additional fundamental safety criteria for oceangoing boats are included in the 1974-adopted version of SOLAS, which covers things like fire prevention and suppression systems, onboard equipment maintenance and operation, and other lifesaving devices. In an effort to capitalise on advancements in maritime safety technology, the current Convention also incorporates provisions that facilitate the implementation of amendments.

International Convention for the Prevention of Pollution from Ships (MARPOL)

MARPOL is the primary international agreement designed to prevent environmental pollution by maritime vessels, whether orally or through accidents. MARPOL was formed in response to the reality that many rivers across the globe are not governed by national laws. Even in foreign waterways, the Convention guarantees that environmental norms are applicable. After the greatest oil leak to date occurred in 1967 at Torrey Canyon, MARPOL was passed in 1973. The 1978 MARPOL protocol was adopted as a result to enforcement issues in the early years of the Convention, and it became operative in 1983.

A signatory nation's flag is applied to all vessels flying that flag. All Convention signatories are required to adopt MARPOL's rules and regulations into their domestic laws. In order to lower the danger of spills from maritime mishaps, MARPOL rules contain guidelines for the management of hazardous cargo, operating shipping waste discharge and cleaning, and ship design and construction.

Standards of Training, Certification and Watchkeeping

“Enacted in 1978”, STCW sets minimal requirements for qualified crew members, such as officers, watchkeepers, and masters of vessels. The Convention aims to prevent the safety risks that arise from having individuals with wildly disparate origins, levels of education, and life experiences on board ships. "For certification as an officer, master, or other crew rank", the Convention expressly stipulates that any training must originate from an authorized source. Every crew member who serves on vessels exceeding 24 meters in length is subject to the SCTW. According to the Convention, crew members in certain roles must complete refresher training, obtain certificates, and/or have a minimum amount of sea service. Even when ships flying the flags of non-party nations enter ports of member nations, the Convention nevertheless applies to such ships. STCW is divided into two sections. While Part B provides suggested standards, Part A lays out the required crew requirements.

Maritime Labor Convention

"In 2013, the Maritime Labour Convention" came into force, establishing minimum living and working standards for ship sailors. The following are a few standards that the MLC covers:

- “Minimum age for crewmembers”
- “Medical requirements and certification standards”
- “Minimum training and qualification requirements”
- “Requirements for crewmember safety training”
- “Employment contracts”
- “Wages and pay rules”
- “Staffing levels”
- “Hours for rest”
- “Access to recreational and medical facilities, as well as accommodations”

- “Entitlement to leave”
- “Repatriation”
- “Skills and career development”
- Ship loss compensation
- Evaluation of prospective workplace incidents through risk assessments
- Mechanism for reporting occupational illnesses or injuries connected to the workplace

The MLC does not apply to fishing boats, battleships, fishing boats, or other government auxiliary vessels, nor does “it apply to ships operating in interior or protected waters”. Nonetheless, the convention applies to any other vessel flying the flag of an MLC member nation. Whether or whether the nation where the ship is registered has ratified the MLC, “it also applies to any non-exempted ship” that pulls into a port in a party to the Convention.

These four treaties are enforced by “the International Maritime Organisation”, a specialist agency of the United Nations. Although not all members of the United Nations have ratified or signed every convention, almost every nation in the world abides by the rules set out in each treaty.

LITERATURE REVIEW

(Mazumder & Foster, 2024) [18] For centuries, the evolution of maritime law has influenced worldwide trade and commerce, serving as a foundation for the expansion and management of international shipping. This article explores how maritime law has changed over time, starting with historic agreements such “the Laws of Oleron and the Rhodian Sea Law and ending with more recent agreements like UNCLOS and MARPOL”. It examines the significance of international organisations, particularly “the International Maritime Organisation (IMO)”, in the development and application of these regulations. The study highlights significant maritime law treaties and their significant impacts on shipping operations, safety, and environmental protection. Current concerns affecting the marine industry are also covered in the report, including environmental difficulties, technological advancements, and threats to maritime security. This article provides a comprehensive analysis of “the practical implications and legal responses” to historical incidents, such as the MV Ever Given Suez Canal obstruction and the Exxon Valdez oil catastrophe, in order to demonstrate their influence on modern maritime law.

(Olaniyi et al., 2024) [11] Examining industry viewpoints and practical implementation, the article investigates marine environmental rules. This evaluation critically examines how well the rules set out by the International Maritime Organisation (IMO) mitigate climate change in the maritime industry. The main contention is that policy objective realisation, enforcement, effect assessment, and equitable perception are often hampered by the dynamic and complex character of marine rules. This study collects, examines, and analyses data using surveys and interviews using qualitative as well as quantitative methods. This study aims to assess how the smart rules affect shipping's adverse effects, particularly with regard to emissions, trash management, and noise pollution. The findings indicate that since the existing regulatory approach is not immediate nor comprehensive, a more flexible, digitally enabled framework is required to adjust to rapidly changing market circumstances.

(Rahayu et al., 2024) [22] Identify obstacles to bettering the governance of systems for marine transportation. As an illustration from the Global South, this article offers a case study centred on Indonesia. Numerous governance models with varying benefits and drawbacks may exist for the same marine transportation sector in the Global South, according to recent study. We underscore the importance of comprehending that fragmentation must be viewed in the context of these interconnected subsystems for Global South transport planners and policymakers. However, coordination necessitates a pragmatic approach, therefore when developing policy, less thorough kinds of integration could be appropriate. There is no one-size-fits-all solution for the whole system, therefore when it comes to improving maritime transport networks, the Global South's leaders and transport planners need to be aware of the challenge that modifications to one subsystem will determine future subsystems.

(de Castro Junior, 2023) [23] Encourage “the use of Economic Analysis of Law (EAL)” in other nations by helping to regulate port operations and the transportation of marine containers in Brazil. The lack of effective economic regulation in Brazil supports the subject since it is necessary for such industry to have fair pricing and tariffs in order to provide sufficient service. As a consequence, Brazilian products have experienced a decrease in competitiveness in international trade, which has led to negative externalities. The text is split into two sections in this regard. Market and governmental failures, economic regulation, and economic analysis are covered in Part I, while the potential use of EAL in port services and marine container transportation is covered in Part II. Following a conclusion, there will be references. Part of the funding for this legal brief came from “the Coordination for the Improvement of Higher Education Personnel—Brazil (CAPES)—Finance Code 001”, with support from the Programa de Excelência Acadêmica (PROEX1).

(Xu et al., 2023) [24] List four possible lines of inquiry and provide an overview of the methods and instruments used in marine transportation safety management over space and time. The bibliometric and systematic study has yielded conclusions and insights that data- or intelligence-driven technologies, such as “scenario representation, digital twinning, and data simulation”, may be beneficial in the development of a resilient marine transportation system. Furthermore, “the current maritime safety management system” is significantly challenged by the challenges confronted by intelligent maritime commerce, which are a result of the coexistence of “intelligent and non-intelligent maritime operations”.

(Matekenya & Nwadi, 2022) [25] examined how South African commerce is affected by the funding of marine transport. Between 1994 and 2019, we investigate “the influence of marine transport finance on South Africa's overall commerce” by employing the Autoregressive Distribution delayed model. The findings support a favourable correlation between finance for marine transport and overall commerce, “both in the short and long term”. According to the findings, finance for marine transport has a favourable effect on South Africa's overall commerce in “both the short and long term”, highlighting the significance of this industry for investment. Consequently, boosting marine transport investment benefits South Africa's overall commerce.

(Saeed et al., 2021) [26] As evidenced by GDP per capita, investigate the complex relationships between domestic output, marine connectivity, and bilateral commerce. Instrumental variables, including maritime distance, gravity factors, and maritime connectivity components, are employed to investigate the reciprocal relationship between “the GDP per capita of 155 trading partners and the export/import of 10 countries”. The results corroborate the reciprocal relationship between GDP per capita and export values, which are equivalent to the import values of trade partners. On the other hand, there is no reciprocal relationship between GDP per capita and import values, “which are the export values of trading partners”. The findings also show that none of the gravity factors had a favourable effect on bilateral commerce when compared to other maritime connection components, confirming the intricacy of “the linkages between maritime connectivity, trade, and economic development”. The findings imply that improved marine connection should

be acknowledged and encouraged by international, regional, and national economic and trade policies.

RESEARCH OBJECTIVE

- To study the maritime law and history of international maritime law.
- To study the four pillars of international maritime law.
- To study the various literature's perspective on challenges, trend, impact of maritime law in the context of global trade.

RESEARCH GAP

Even with a wealth of study on maritime law and its history, there are still many unanswered questions about how it has changed in response to the swiftly shifting dynamics of international commerce. Existing studies primarily focus on traditional frameworks such as carriage of goods, liability, and dispute resolution, while limited attention is given to emerging challenges like digitalization, cybersecurity, autonomous shipping, and environmental sustainability. Furthermore, little is known about how changing geopolitical conflicts and international trade agreements affect marine law regimes. A comprehensive analysis addressing these contemporary issues is necessary to bridge the gap between traditional maritime law and modern global trade realities.

RESEARCH METHODOLOGY

The research methodology of this review paper is qualitative, based on secondary data analysis to examine the evolution of maritime law in the context of global trade. A systematic literature review was carried out, focusing on peer-reviewed journals, scholarly articles, conference proceedings, government reports, and technical papers published between 2010 and 2025. Sources were identified through academic databases and legal repositories, ensuring reliability and relevance. The collected literature was critically analyzed to trace historical developments, identify contemporary challenges, and highlight emerging trends in maritime law. This approach provides a comprehensive understanding of legal transformations shaping global maritime trade.

FINDINGS AND CONCLUSION

The review reveals that the evolution of maritime law is deeply intertwined with the shifting dynamics of global trade. Findings indicate that ambiguous regulatory guidelines and financial implications remain persistent concerns among stakeholders, creating barriers to effective implementation. Smart regulations are widely perceived as both efficient and effective, yet their application demonstrates varying outcomes depending on governance models. In cases such as Indonesia, governance challenges arise from the gap between policy rhetoric and practical implementation, reflecting the difficulty of aligning ideal frameworks with operational realities. Empirical evidence, such as studies from South Africa, highlights that investment in maritime transport infrastructure significantly promotes trade growth, underscoring the importance of sustainable financing and public-private partnerships. Additionally, factors such as maritime connectivity, transshipment requirements, competition on trade routes, and geographic distance critically shape trade flows. On safety management, research trends show increasing reliance on advanced tools like Bayesian networks, fuzzy theory, and machine learning for risk assessment and resilience analysis. In summary, new issues including digitalisation, cybersecurity, autonomous ships, and sustainability need changes to maritime law. Aligning governance models with realistic trade needs, while fostering investment and innovation, will ensure maritime law continues to support global trade effectively in a rapidly changing environment.

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